

What is claimed is:

1. A movable vacuum forming apparatus comprising:

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a pair of frames provided to respective of upper and lower press plates of a press apparatus via seals for surrounding a predetermined space;

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Dg60
an interpenetrated portion provided at one of the frames and capable of being interpenetrated into other of the frames movably in an up and down direction;

10 a seal apparatus for slidably sealing an interval between the interpenetrated portion and the other of the frames; and

a sucking apparatus for bringing a space surrounded by the interpenetrated portion and the other of the frames under a negative pressure,

15 wherein the seal apparatus seals the interval by compensating for a strain of the interpenetrated portion caused by the negative pressure of the space.

2. The movable vacuum forming apparatus according to Claim 1, wherein:

20 the seal apparatus is a packing mounted to the interpenetrated portion for being brought into sliding contact with an inner periphery of the other of the frames and includes a lip having a size in correspondence with the strain of the interpenetrated portion.

3. The movable vacuum forming apparatus according to Claim 1, wherein:

25 the seal apparatus is a packing mounted to the other of the frames

and brought into sliding contact with an outer periphery of the interpenetrated portion and includes a lip having a size in correspondence with the strain of the interpenetrated portion.

4. The movable vacuum forming apparatus according to Claim 1,
5 further comprising a connecting piece for connecting the pair of frames
movably in the up and down direction by a predetermined length to
thereby integrate the pair of frames.

5. The movable vacuum forming apparatus according to Claim 1,
wherein:

10 the other of the frames provided with the interpenetrated portion
includes an uninterpenetrated portion which is not interpenetrated into
the one of the frames and the suction apparatus vacuums the surrounded
space via the uninterpenetrated portion.

6. The movable vacuum forming apparatus according to Claim 1,
15 further comprising:

a hole provided at the one of the frames and connected to the
suction apparatus;

a first notched groove formed at an upper face of the one of the
frames and communicated with the hole; and

20 a second notched groove formed at an upper face of the
interpenetrated portion and communicated with the first notched groove,

wherein the suction apparatus vacuums the surrounded space via
the first notched groove and the second notched groove.

25 7. A movable vacuum forming apparatus comprising:
one frame provided between upper and lower press plates of a press

apparatus for surrounding a predetermined space provided at the upper press plate via a seal;

5 a base provided at the lower press plate via a seal and having an interpenetrated portion capable of being interpenetrated to the one frame movably in an up and down direction;

a seal apparatus for slidably sealing an interval between the interpenetrated portion of the base and the one frame; and

10 a suction apparatus for bringing a space formed by the interpenetrated portion and the one frame and the upper and the lower press plates under a negative pressure.

8. The movable vacuum forming apparatus according to Claim 7, wherein;

15 the base includes a pressure balance hole for communicating the surrounded space and the space formed between the base and the lower press plate.

9. A vacuum press apparatus comprising:

upper and lower press plates moved in an up and down direction by a predetermined drive apparatus;

20 one frame attachably and detachably provided between the upper and the lower press plates for surrounding a predetermined space provided at one of the upper and the lower press plates via a seal;

25 a member provided between the upper and the lower press plates, provided at ~~at~~ other of the upper and the lower press plates via a seal and having an interpenetrated portion capable of being interpenetrated to the one frame movably in the up and down direction; and

a seal apparatus for slidably sealing an interval between the interpenetrated portion of the member and the one frame; and

a suction apparatus for bringing a space surrounded by the interpenetrated portion and the one frame under a negative pressure.

5 10. The vacuum press apparatus according to Claim 9, wherein the
member is a frame.

11. The vacuum press apparatus according to Claim 9, wherein the member is a base.